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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/505,414

05/04/2005

Tajinder Manku

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EXAMINER

BURD, KEVIN MICHAEL

ART UNIT

PAPER NUMBER

2611

NOTIFICATION DATE

DELIVERY MODE

08/18/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/505,414	Applicant(s) MANKU, TAJINDER	
	Examiner Kevin M. Burd	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

1. Claims 1, 13, 14, 17, 24 and 25 are rejected under 35 U.S.C. 102(a) as being anticipated by Manku et al (WO 01/17120 A2).

Regarding claims 1, 24 and 25, Manku discloses a circuit and a method of using the circuit of figure 5. The circuit is a demodulator circuit for emulating the down conversion of an input signal with a local oscillator. The circuit comprises a first mixer 72 for receiving an input signal and a second mixer 74 for receiving the output of the first mixer (figure 3(a)). A first signal generator is connected to the first mixer (figure 5). A second signal generator (elements 112, 114 and 116) is connected to the second mixer. A power measurement circuit 110 measures the power of the output signal. The power measurement circuit provides a signal to the second signal generator to vary the characteristics of the signal input to the second mixer as shown in figure 5.

Regarding claims 13 and 14, the first and second signal generators generate square wave signals (figure 3(b)).

Regarding claim 17, the second signal generator varies the phase of the second signal generator signal (figure 5).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2-12, 15, 16 and 18-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Manku et al (WO 01/17120 A2) in view of Marz (US 5,390,346).

Regarding claims 2, 15 and 16, Manku discloses the demodulation circuit stated above. Manku does not disclose the second signal generator varies the phase of the frequency of the output of the input to the second mixer. Manku discloses the phase delay of the signals as well as the power is monitored and according to these values, the signal input to the second mixer is changed. This is described in the description of figure 5 in pages 11-13. Marz discloses the receiver shown in figures 1 and 2. The signals input to the first and second mixers are determined to prevent the input to the second mixer from falling within a desired range of the frequency band of the filters (column 5, lines 40-60). Figure 2 discloses the oscillator synthesizers that compare the phases of an input reference signal (43) and the signal that was previously output to the mixer (fLO). The phase detector 34 will output an adjustment signal to VCO 38 to change the frequency of the signal output to the mixer (figure 2). This circuit will allow the circuit to adapt to changes in the mixed input signal and allow changes in the oscillator circuit to compensate for deviations from a desired frequency level. Signals outside the desired frequency can be removed. For these reason, it would have been

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obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Marz into the circuit of Manku.

Regarding claim 3, Marz discloses the VCO 38 in figure 2.

Regarding claim 4, as stated above the combination discloses means for detecting changes in power (Manku: figure 5, element 110) and a frequency control circuit (Marz: figure 2).

Regarding claims 5-7, Manku disclose the adjustment of the signal input to the second mixer in response to the power level of the mixed output signal (pages 11-12).

Regarding claim 8, Manku discloses the change in the power value is detected and a delay of the digital output is conducted according to the slope of the power level (figure 5 and pages 11-12).

Regarding claim 9, the circuit will have an initial condition.

Regarding claim 10, Manku discloses the timing and processing of the output power signals is conducted in circuit 110, 112 and 114.

Regarding claims 11 and 12, Manku discloses the circuit is constructed using signals that do not contain a significant amount of power or no power at all at the LO frequency (abstract).

Regarding claim 18, the noise problems associated with direct conversion RF receivers is removed by the disclosed demodulators (abstract).

Regarding claims 19 and 20, the combination disclose the mixer is active (Manku figure 7).

Regarding claims 21-23, the combination discloses the high pass filter arrangement and the second mixer is passive (Manku: figure 7).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tolson et al (US 6,625,436) discloses the demodulator circuit shown in figure 6. The circuit comprises control circuitry to adjust the second mixer to cancel unwanted products of the received signal (column 2, lines 60-64).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Burd whose telephone number is (571) 272-3008. The examiner can normally be reached on Monday - Friday 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Payne can be reached on (571) 272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin M. Burd/
Primary Examiner, Art Unit 2611
8/11/2008